CALIFORNIA REGIONAL WATER QUALITY CONTROL BOARD
SAN FRANCISCO BAY REGION

RESOLUTION NO. 94 - 100

RESOLUTION OF INTENT TO ENTER INTO A FEDERAL FACILITIES SITE REMEDIATION AGREEMENT SPECIFYING A SITE INVESTIGATION AND REMEDIAL ACTION SCHEDULE FOR SOIL AND GROUNDWATER CONTAMINATION

U. S. NAVY (PRIMARY DISCHARGER) AND
U. S. DEFENSE SUPPLY LOGISTICS AGENCY (SECONDARY DISCHARGER)
POINT MOLATE NAVAL FUELS DEPOT
RICHMOND, CONTRA COSTA COUNTY

WHEREAS,

1. SITE DESCRIPTION: The U. S. Defense Supply Logistics Agency and the U.S. Navy (hereinafter collectively referred to as the Discharger) jointly own and the Navy operates Point Molate Naval Fuels Depot (hereinafter referred to as the Site). The Site is located on the eastern shore of San Francisco Bay, about one mile north of the Richmond-San Rafael Bridge near the city of Richmond (Figure 1). The facility covers approximately 300 acres in the Potrero Hills. The topography varies from flat lying, reclaimed tidal marsh along the bay front to steep hills rising to an elevation of more than 500 feet. The facility is bordered on the north, south and east by Chevron Corporation and to the west by San Francisco Bay.

2. SITE HISTORY: The Navy established Point Molate Fuels Depot in the early 1940s, and currently stores over 40 million gallons of fuel and oil in 29 aboveground and underground tanks. The Site as it exits today was largely in place by November 1960. It was integrated with the Navy Supply Center, Oakland as a Fuel Department in 1962. Ownership of the Site was transferred to the Defense Supply Logistics Agency in 1973 as part of the Integrated Materials Management Plan for bulk petroleum storage. The Defense Supply Logistics Agency is the current owner of the Site. In 1993, NSC Oakland was renamed Fleet and Industrial Supply Center, Oakland (FISCO). The site currently maintains its service under FISCO. On the Site, there are historic Winehaven Buildings and 100 acres of land nominated to the National Register of Historic Places. Any tasks that will directly or indirectly affect this historic district will require compliance with Section 106 of the National Historic Prevention Act of 1966, as amended in 1980, in accordance with the regulations for the protection

of historic properties (36 CFR Part 800).

3. The regulation of cleanup at DoD sites is done pursuant to Federal Facility Agreements (for sites on the federal CERCLA Superfund list) or Federal Facility Site Remediation Agreements (for sites not on the Superfund list). These agreements, which are signed by the military, DTSC and the Regional Board, establish a procedural framework and schedule for developing, implementing and monitoring appropriate response actions at sites. Regulation is not usually accomplished through adoption of Board orders, unless for enforcement purposes following exhaustion of administrative remedies through the dispute resolution process.

4. It is the intent of the Navy, the Regional Board and DTSC to enter into and execute a Federal Facility Site Remediation Agreement for Point Molate Fuel Depot by August, 1995.

5. This Resolution indicates the Regional Board's current expectations as to a reasonable schedule for completion of key steps in the process of installing remediation facilities and completing investigations as to nature and extent of contamination.

6. To streamline and consolidate California regulatory efforts with respect to cleanup of military bases, Secretary for California Environmental Protection Agency (Cal/EPA) has designated the Department of Toxic Substances Control (DTSC) to be the lead agency coordinating response for all Cal/EPA regulatory departments and boards so as to provide a single state position on remedial activities at military bases. This schedule in this Resolution has been coordinated with DTSC as lead agency.

7. In order to expedite the cleanup of hazardous waste sites on Department of Defense (DoD) installations within the State of California and ensure compliance with the applicable State law and regulations, DoD and the State entered into a Department of Defense and State Memorandum of Agreement (DSMOA) in 1990. The DSMOA provides a funding mechanism for the reimbursement of State oversight costs with regard to the cleanup of contaminated federal facilities in California, and contains a dispute resolution process.

8. <u>SITE GEOLOGY:</u> The Potrero Hills form a peninsula projecting into San Francisco Bay. They are composed of fractured, interbedded, near vertical fine to medium grained sandstones and siltstones of Jurassic-Cretaceous age of the Franciscan Formation. The site is bounded by the Hayward Fault to the east and the projected San Pedro-San Pablo Fault to the west.
Weathered bedrock of varying thickness overlies the hill slope areas. Bay mud on-laps the Franciscan Formation along the shoreline. Fill soils were placed on

bay mud at the lower elevations along the shoreline.

9. HYDROGEOLOGY: The Site is located within the groundwater basin designated by the Department of Water Resources as the Alameda Bay Plain Basin. The basin is drained by the Guadelupe River and by the Alameda, Coyote, Redwood, and San Francisquito Creeks. Groundwater flow occurs through the colluvium in the ancestral valleys down the hill slopes into the fill and alluvium and discharges into the bay.

10. SITE USAGE: Several different fuels have been stored in the tanks over the years. Navy Special Fuel Oil (NSFO), a black viscous bunker fuel was originally stored in numerous tanks. Thereafter, diesel and jet turbine fuel and aviation gasoline as well as motor vehicle gasoline was stored in the tanks. One tank was used for ballast water storage. At present, F-76 (Diesel Fuel Marine) and JP-5 (Jet Turbine Fuel) are stored in the tanks. The Site also operates a sanitary sewer/storm drain system and a fuel reclamation/ballast treatment system. Included in the fuel reclamation/ballast are three treatment ponds which overlie a former sump pond.

11. KNOWN AREAS OF CONTAMINATION: Basically there are five areas of concern (See Figure 2): (1) Treatment Ponds Area (Former sump pond), (2) Shoreline sediments (3) Landfill, (4) Sandblast Grit Disposal Areas, (5) Site-wide soil and groundwater contamination from unidentified sources. However, numerous fuels spills may have potentially contaminated the groundwater, soils, and sediments associated with the Site.

(1) The past investigation focused on the waste water treatment ponds, as the history of pond usage and several extraction wells indicated the presence of extensive soil contamination and floating hydrocarbons above the groundwater table. The ponds consist of three unlined interconnected ponds for settling and evaporation of oily wastewater. The ponds are approximately 6 feet deep. They were constructed within fill material placed to close a larger pre-existing unlined sump pond used for the disposal of contaminated fuels, tank bottom sludges, leaking drums, and other liquid wastes. Other wastes, including large numbers of batteries may have been disposed of in the sump pond. Liquids and sludge in the sump pond were removed prior to filling the pond with fill material.

There has been extensive investigations of the soil and groundwater in the treatment ponds area. Semi-Volatile Organics (SVOCs), Volatile Organics (VOCs), Bunker fuel, diesel, JP-5, and gasoline have been detected in both the soil and groundwater. Approximately 40 monitoring wells have been installed in the treatment ponds area. In all of the wells floating product

(ranging from 0.5 feet to 3.0 feet) or polluted groundwater has been found.

(2) The sump pond and waste water treatment ponds are located approximately 150-200 feet from the bay shoreline. Subsurface investigations have shown that the fill material between the ponds and the bay is heavily contaminated with bunker fuel, a heavy viscous hydrocarbon which adheres to soil particles. The bunker fuel has migrated both north and south from the ponds and west beyond the shoreline (contamination of the beach sediments). The extent of sediment contamination has not been defined.

(3) A landfill is located in a ravine near the center of the fuel depot. It was used for disposal of fuel depot waste materials generated by site activities. The site was in use approximately 20 years. The waste was covered with soil and may extend as much as 50 feet below the present ground surface. The boundary of the landfill has not been defined yet. In a preliminary investigation, performed in 1990, the following contaminants were found in the landfill: VOCs, SVOCs, Pesticides, Benzene-Toluene-Ethylbenzene-Xylene (BTEX), Jet fuel, diesel, motor oil, and drums containing liquid foaming agents.

(4) There are several sandblast grit disposal areas throughout this Site (See Figure 2 for exact locations). These areas were covered with sandblast grit from past metal cleaning operations. The sandblast grit has been removed, but the residual impacts from this disposal practice needs to be assessed.

(5) Numerous buried pipeline leaks, both on the hill-slopes and in the shoreline fill material, created a site-wide soil and groundwater contamination. Pipelines, pipeline junctions and valve boxes were found to have had numerous leaks. Hydrocarbons have migrated downgradient through the porous pipeline bedding in the pipe trenches towards the bay. As a result, additional wells have been installed along the shoreline (south of the fuel pier) to determine if contamination is impacting the San Pablo Bay. Additional work will be necessary to characterize and define extent of contamination from past releases.

12. <u>SOIL, SEDIMENTS AND GROUNDWATER INVESTIGATIONS:</u> The Discharger has submitted a workplan to investigate the landfill and shoreline. The actual field work began January, 1994 and is still ongoing. A Quarterly Monitoring Program has begun, soil borings have been placed at appropriate locations throughout the Site and shoreline sediment sampling began early May.

13. UNITED STATES ENVIRONMENTAL PROTECTION AGENCY (USEPA) CONCERNS: USEPA, in a Site Assessment report dated July 1, 1993, recommended that the Site should undergo further investigation to determine the extent and nature of the contamination associated with this Site. USEPA identifies the same areas of concern as described in this Resolution (under No. 11: KNOWN AREAS OF CONTAMINATION and illustrated in Figure 2).

14. SOIL AND GROUNDWATER INTERIM REMOVAL ACTIONS: Because of the impact to groundwater quality posed by the contamination associated with the treatment ponds area, an Interim Removal Action has been proposed by the Navy. The Interim action proposed is an extraction trench approximately 1,200 feet long to intercept the floating product and the contaminated groundwater emanating from the former sump pond area to the bay. The groundwater captured in the extraction trench will be removed of floating product, treated through the on-site wastewater treatment facility, and then discharged to the bay under a NPDES permit.

15. NPDES PERMIT: The NPDES permit issued on March 15, 1989 has expired; however, the existing permit will remain in effect until a reissued permit has been adopted by the Board. When the permit is reissued, it will include effluent limitations that, for some constituents, are more stringent than the existing limits. The treatment and disposal of the groundwater from the extraction trench must be in compliance with any NPDES Permit adopted by the Regional Board.

16. STATE WATER RESOURCES CONTROL BOARD RESOLUTION:

State Board Resolution No. 68-16: On October 28, 1968, the State Board adopted Resolution No. 68-16, "Statement of Policy with Respect to Maintaining High Quality Waters in California". This policy calls for maintaining the existing high quality of the State waters unless it is demonstrated that any change would be consistent with the maximum public benefit and not unreasonably affect beneficial uses. This is based on a Legislative finding, contained in Section 13000, California Water Code, which states in part that it is State policy that "waters of the State shall be regulated to attain the highest water quality which is reasonable."

State Board Resolution No. 92-49: On April 21, 1994, the State Board adopted Resolution No. 92-49, "Policies and Procedures for Investigation and Clean up and Abatement of Discharges under Water Code Section 13304". This Resolution was also approved by the California Office of Administrative Law on July 8, 1994.

The investigation and remediation at this site must be done in accordance with both Resolutions.

17. REGIONAL WATER QUALITY CONTROL BOARD RESOLUTIONS:

Regional Board Resolution No. 88-160: On October 19, 1988, the Regional Board adopted Resolution No. 88-160, "Regional Board Position on the Disposal of Extracted Groundwater from Groundwater Cleanup Projects". The Resolution strongly encourages "the dischargers of extracted groundwater from groundwater cleanup projects to reclaim their effluents to the extent technically and economically feasible" and "discharge to Public Owned Treatment Works (POTW)". Direct discharge to surface water will be authorized only when the Regional Board finds "neither reclamation nor discharge to POTW is technically and economically feasible".

Feasibility of reuse of treated groundwater will be required. If it is not feasible, direct discharge of treated groundwater to the Bay will be allowed.

Regional Board Resolution No. 89-39: The Board adopted Resolution No. 89-39, "Incorporation of 'Sources of Drinking Water' Policy into the Water Quality Control Plan" on March 15, 1989. This policy considers "all surface and ground waters of the State to be suitable, or potentially suitable, for municipal or domestic water supply" unless where "the total dissolved solids (TDS) exceed 3,000 mg/l" and "the water source does not provide sufficient water to supply a single well capable of producing an average, sustained yield of 200 gallons per day".

TDS has not been measured as of yet at this site, however, TDS is a parameter that will be measured in the quarterly monitoring efforts to determine if the groundwater falls into the drinking water criteria.

18. BASIN PLAN: The Board adopted a revised Water Quality Control Plan for the San Francisco Bay Basin (Basin Plan) dated September 16, 1992. The Basin Plan contains water quality objectives and beneficial uses for the seasonal drainage located on this Site and contiguous surface waters and groundwaters.

19. BENEFICIAL USES - SURFACE WATER: The existing and potential beneficial uses of the seasonal drainage on the Site and the contiguous surface water (San Pablo Bay) adjacent to the Site include:

a. Contact and non-contact water recreation;
b. Wildlife habitat;
c. Fish migration and spawning;
d. Industrial service supply;
e. Navigation;
f. Commercial and sport fishing;
g. Preservation of areas of special biological significance;
h. Estuarine habitat;
i. Warm fresh water habitat; and

j. Agricultural supply.

20. BENEFICIAL USES - GROUNDWATER: The existing and potential beneficial uses of groundwater in the vicinity of the site include:
    a. Municipal and domestic water supply;
    b. Industrial process water supply;
    c. Industrial service water supply; and
    d. Agricultural water supply.

21. The discharger has caused or permitted, and threatens to cause or permit, waste to be discharged or deposited where it is or probably will be discharged to waters of the State and creates or threatens to create a condition of pollution or nuisance.

22. SCOPE OF THIS RESOLUTION: This Resolution contains tasks for groundwater, shoreline sediment and soil characterization at the Site; implementation and evaluation of the remedial actions for on-site soil pollution and on-site (and, if applicable, off-site) groundwater and surface water pollution attributable to the Discharger; and evaluation and implementation of final cleanup actions. The tasks are necessary to alleviate the pollution and threatened pollution of surface water and groundwater posed by the migration of contaminants, and to provide a substantive technical basis for designing and evaluating effectiveness of final remediation.

23. PUBLIC HEARING: The Board has notified the Discharger and interested agencies and persons of its intent to negotiate a Federal Facilities Site Remediation Agreement (FFSRA) to establish a framework schedule for site investigation and remedial action and has provided them with the opportunity for a public hearing and an opportunity to submit their written views and recommendations.

    The Board, in a public meeting, heard and considered all comments pertaining to the discharge.

BE IT THEREFORE RESOLVED, that this Regional Board authorizes the Executive Officer, or his designee representing the Regional Board in negotiating and entering into a Federal Facility Site Remediation Agreement with U. S. Navy for Point Molate Naval Fuels Depot.

BE IT FURTHER RESOLVED, that it is this Regional Board's intent to incorporate the following provisions into the Federal Facility Site Remediation Agreement:

1. TASK: DETERMINATION OF FEASIBILITY FOR REUSE OF

TREATED GROUNDWATER

COMPLETION DATE: JULY 31, 1995. Prepare a technical report, acceptable to the Executive Officer, which evaluates options for reuse of the extracted/treated groundwater from the proposed interception trench.

2. **TASK: CONTINUE QUARTERLY GROUNDWATER MONITORING**

COMPLETION DATE: Every 3 months. Prepare a Quarterly Groundwater Monitoring Report, acceptable to the Executive Officer, as specified in the FINAL NAVAL FUEL DEPOT POINT MOLATE SHORELINE/LANDFILL INVESTIGATIONS AND QUARTERLY GROUNDWATER SAMPLING FIELD WORK PLAN/SAMPLING ANALYSIS PLAN, dated January 27, 1994 and as may be modified by the Executive Officer. A list of monitoring wells included in the quarterly sampling efforts is attached.

3. **TASK: COMPLETION REPORT FOR CONSTRUCTION OF THE EXTRACTION TRENCH**

COMPLETION DATE: JULY 31, 1995. Prepare a technical report, acceptable to the Executive Officer, upon completion of the construction. This report should include, but is not limited to:

a. Notification to the Board of completion of construction

b. Any modifications from the approved design

4. **TASK: OPERATION, MAINTENANCE AND PERFORMANCE EVALUATION OF THE GROUNDWATER EXTRACTION TRENCH**

COMPLETION DATE: JULY 31, 1995. Prepare a technical report, acceptable to the Executive Officer, to include, but is not limited to:

a. Operation and Maintenance Plans

b. Performance Evaluation of the Extraction Trench: a plan to prove the effectiveness of this interim removal action (e.g. periodic sediment analysis, groundwater monitoring between the trench and the Bay)

5. **TASK: EVALUATION OF TREATMENT AND DISPOSAL ALTERNATIVES FOR THE GROUNDWATER FROM THE**

EXTRACTION TRENCH

COMPLETION DATE: JULY 31, 1995. Prepare a technical report, acceptable to the Executive Officer, that describes a unit by unit performance evaluation of the current wastewater treatment facility with the addition of pollutant and hydraulic loading from the introduction of the extracted groundwater. The report should include, but is not limited to:

a. Discussion of the unit by unit performance evaluation with the addition of pollutant and hydraulic loading to the wastewater facility by taking into account the treatment capacities, treatment processes, efficiencies, and current operation and maintenance plan

b. Recommendations for modifying current wastewater treatment facility or other treatment/disposal alternatives to accommodate the additional pollutant and hydraulic loading from the extracted groundwater

6a. TASK: DRAFT BASELINE SHORELINE SEDIMENT QUALITY EVALUATION

COMPLETION DATE: APRIL 30, 1995. Prepare a technical report, acceptable to the Executive Officer, that describes the data from the shoreline sediment analysis. The report should include, but is not limited to:

1) Present chemical and biological data from the shoreline sediment analysis of the 12 transects previously established.

2) Discussion of chemical and biological data, data presented in tabular form and on a site map.

3) Discussion of nature and extent of shoreline sediment contamination

6b. TASK: FINAL BASELINE SHORELINE SEDIMENT QUALITY EVALUATION

COMPLETION DATE: AUGUST 31, 1995. Prepare a technical report, acceptable to the Executive Officer, that describes the data from the shoreline sediment analysis. Refer to Task No. 6a.

A schedule for sediment Remedial Investigation/Feasibility Study, if

necessary, will be established following review of the Final Baseline Shoreline Sediment Quality Evaluation.

7. TASK: ADDITIONAL LANDFILL INVESTIGATION AND REPORT

COMPLETION DATE: OCTOBER 31, 1994. Prepare a technical report, acceptable to the Executive Officer, that describes the data from the recent landfill investigation to further characterize the waste, the site and to define the landfill boundary. The report should include, but is not limited to:

a. Data summary from previous investigations at the Landfill.

b. Discussion of data, data presented in tabular form, cross sections and on a site map.

c. Discussion of nature and extent of contamination in the soil and groundwater from the Landfill

8a. TASK: DRAFT PROPOSED CORRECTIVE ACTION FOR THE LANDFILL

COMPLETION DATE: OCTOBER 31, 1995. Prepare a technical report, acceptable to the Executive Officer, that evaluates corrective actions for soil and groundwater contamination caused by the Landfill. The report should include, but is not limited to:

a. Workplan to define the nature and extent of contamination in the soil and groundwater from the Landfill

b. Evaluations of remedial alternatives

8b. TASK: FINAL PROPOSED CORRECTIVE ACTION FOR THE LANDFILL

COMPLETION DATE: SEPTEMBER 30, 1996. Prepare a technical report, acceptable to the Executive Officer, that evaluates corrective actions for soil and groundwater contamination from impact by the Landfill. Refer to Task No. 8a.

A schedule for completing the Landfill corrective action, if necessary, will be established following review of the reports required by Task Nos. 8a and 8b.

9a. TASK: DRAFT WORKPLAN ON CHARACTERIZATION OF CONTAMINATION FROM PAST RELEASES

COMPLETION DATE: JANUARY 31, 1996. Prepare a workplan, acceptable to the Executive Officer, which should include but is not limited to identifying sources and pathways and to define the extent of the contamination in soil and groundwater from past releases.

9b. TASK: FINAL WORKPLAN ON CHARACTERIZATION OF CONTAMINATION FROM PAST RELEASES

COMPLETION DATE: APRIL 30, 1996. Prepare a workplan, acceptable to the Executive Officer, which should include but is not limited to identifying sources and pathways and to define the extent of the contamination in soil and groundwater from past releases.

10a. TASK: DRAFT REPORT ON CHARACTERIZATION OF CONTAMINATION FROM PAST RELEASES

COMPLETION DATE: APRIL 30, 1997. Prepare a technical report, acceptable to the Executive Officer, which should include, but is not limited to:

1) Identification of sources and pathways from past releases and definition of extent of contamination from these sources in soil and groundwater

2) A Proposal of interim soil/groundwater removal actions for localized contaminated areas that provide a continuous source of contamination to the surface water, the groundwater, and the sediments

10b. TASK: FINAL REPORT ON CHARACTERIZATION OF CONTAMINATION FROM PAST RELEASES

COMPLETION DATE: AUGUST 31, 1997. Prepare a technical report, acceptable to the Executive Officer, which identifies sources of contamination which impact or threaten to impact the groundwater. Refer to Task No. 10a.

Schedules for proposal and completion of corrective actions, if necessary, may be established following review of the reports required by Task Nos. 10a and 10b.

11a. TASK: DRAFT BACKGROUND DETERMINATION FOR INORGANICS

COMPLETION DATE: APRIL 30, 1995. Prepare a technical report, acceptable to the Executive Officer, that establishes background concentrations of inorganics at the Site. This report should include, but is not limited to:

1) Presentation of data from background investigation

2) Comparison of residual soils' inorganic concentrations from sandblast grit disposal areas to background inorganic concentrations.

11b. TASK: FINAL BACKGROUND DETERMINATION FOR INORGANICS

COMPLETION DATE: DECEMBER 31, 1995. Prepare a technical report, acceptable to the Executive Officer, that establishes background concentrations of inorganics at the Site. Refer to Task No. 11a.

Schedules for proposal and completion of corrective actions for Sand Blasting Sites may be established, if necessary, following review of the reports required by Task Nos. 11a and 11b.

I Steven R. Ritchie, Executive Officer, do hereby certify that the foregoing is a full, true and correct copy of an Resolution adopted by the California Regional Water Quality Control Board, San Francisco Bay Region, on August 17, 1994.

STEVEN R. RITCHIE
Executive Officer

Attachments:
Figure 1: Location/Site Map
Figure 2: Areas of Concern/Site Map
Table 1: List of Monitoring Wells in the Quarterly Sampling Plan

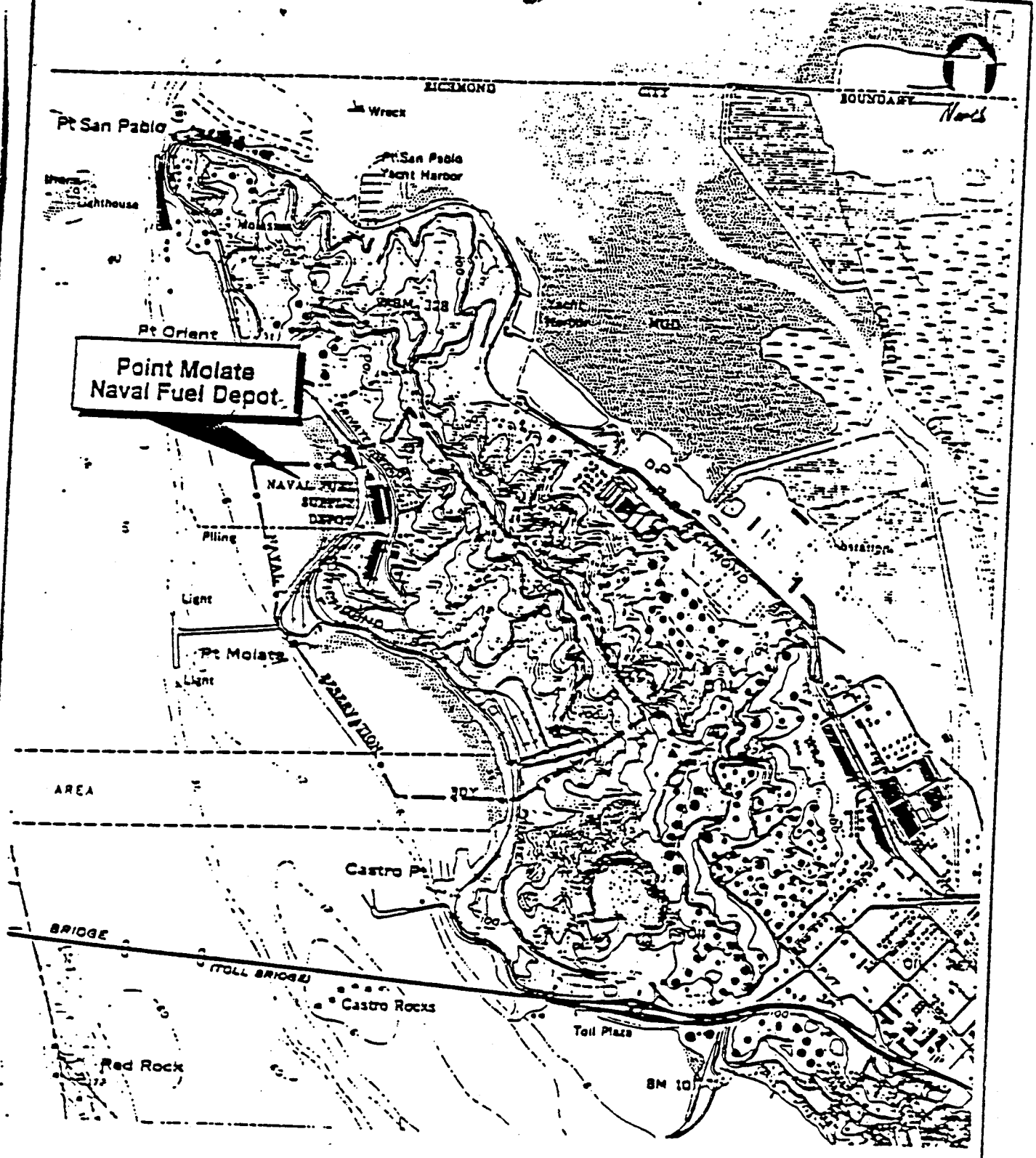

FIGURE 1
POINT MOLATE FUEL DEPOT
SITE LOCATION MAP

(ADAPTED FROM ERM-WEST, 1990)

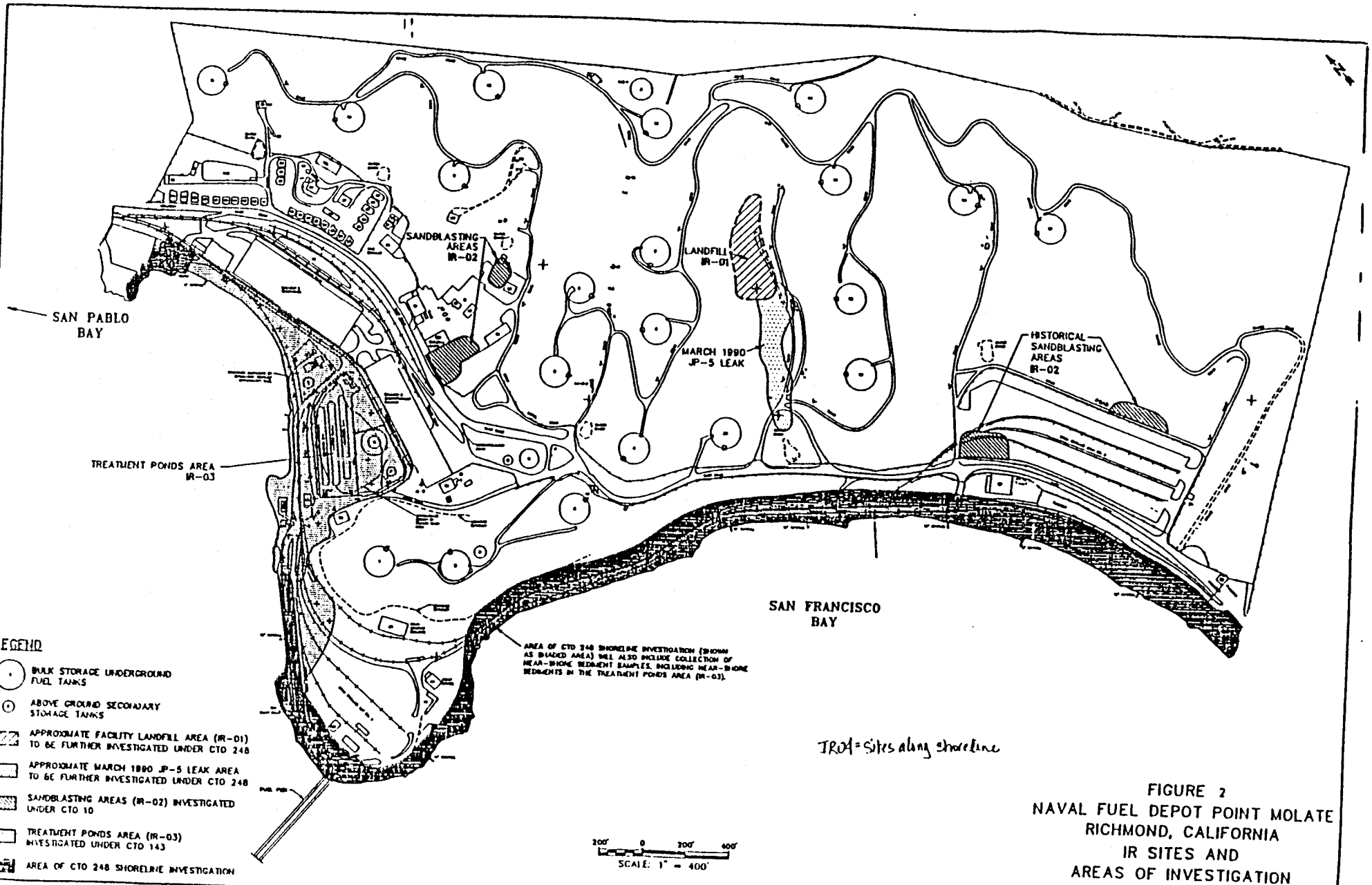

FIGURE 2
NAVAL FUEL DEPOT POINT MOLATE
RICHMOND, CALIFORNIA
IR SITES AND
AREAS OF INVESTIGATION

TABLE 1

POINT MOLATE NAVAL FUELS DEPOT
GROUNDWATER MONITORING WELLS NETWORK

Well I.D.	Location
MW 11-02	North end of the shoreline
MW 11-05	
MW 11-08	landward of the trench
PRC #2	
MW 11-11	
MW 11-13	
PRC #3	
MW 11-54	South of the trench but north of the fuel pier
MW 11-22	
MW 11-55	
MW 11-19	
MW 11-57	
MW 10-02	South of the fuel pier
MW 10-03	
MW 10-05	
ERM #1	
ERM #2	
MW 10-09	
MW 10-12	
MW 10-14	
MW 10-15	